

# Information and Communication Technology - Efficiency of Teaching and Learning Process

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*Abstract—Teaching is transmission of some facts and figures, some values and attitudes to a group of students or clients. In order to make such transmission effective and interesting, various methods are followed and different media and materials are utilized by the teachers. These methods, mediums, techniques and materials are known as Educational Technology. Educational Technology implies the use of all educational resources – men and materials, methods and techniques, means and media used by the teachers in an integrated and systematic manner for optimizing learning. It is the learning, not teaching, the crucial task of the entire educational process and emphasis of teachers is regarded as a system which facilitates learning and makes learning effective as well as efficient. Educational technology has now influenced all stages of education starting from pre-primary and university education, from formal to non-formal education and from distance to continuing education. Quality of education can be greatly improved to benefit the pupil by using educational technology. With the advancements in Information and Communication Technology, there have been tremendous changes in both teaching methodologies adopted by the teachers and learning experiences of the students. The present paper explores the different ways through which the teachers and students can be benefited by effectively utilizing the Information and Communication Technology.*

*Index Terms—Teaching, Learning, Educational Technology, Information and Communication Technology, Internet*

## I. INTRODUCTION

Teaching is a kind of communication of message (learning experience) released by a source (teacher) and transmitted through a channel (medium or method) to reach the receivers (pupils). In other words, Teaching is transmission of some facts and figures, some values and attitudes to a group of students or clients. In order to make such transmission effective and interesting, various methods are followed and different media and materials are utilized by the teachers. The teacher acts as a communicator for giving facts and ideas, skills and attitudes to the learners and good teaching requires interaction in the classroom or inter-communication between teacher and students. Teaching is a mutual sharing of experience and a continual feedback process. Such teaching or communication is meant for effective learning which is expected to change or modify the student's behavior. Learning is a process of modification of behavior more or less permanently through the various experiences gained by interaction with the people and the objects in the environment of the individual as teaching becomes effective learning, creative and productive. Learning is, therefore, meaningful, purposeful and goal oriented. Educational Technology will help the teachers and students in making teaching and learning so effective.

Educational Technology implies the use of all educational resources – men and materials, methods and techniques, means and media used by the teachers in an integrated and systematic manner for optimizing learning. According to the modern educationists, learning, not teaching, is the crucial task of the entire educational process and emphasis of teachers is regarded as a system which facilitates learning and makes learning effective as well as efficient. Education technology has now influenced all stages of education starting from pre-primary and university education, from formal to non-formal education and from distance to continuing education. Quality of education can be greatly improved to benefit the pupil by using educational technology. The present paper explores the different ways through which the teachers and students can be benefited by effectively utilizing the Information and Communication Technology so that the purpose of education is achieved.

## **Information and Communication Technology – A Tool to improve Teaching and Learning efficiency**

The potential of computers has been recognized as an efficient tool for obtaining knowledge and information through multi-media, via internal databases (CD-ROM), external databases (Internet) or by communication with

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others via e-mail, data conferences etc. The global spread of computers and the internet has changed the way people communicate and develop networking. This digital revolution has made remarkable impact on education too. This technology is a tool in the hands of educationists for solving the problems in the area of education like, access to education, quality education, internationalization of education, opportunities for lifelong learning. Information and Communication Technology has reshaped various sectors of business and markets, and there is a shift to knowledge workers in every sector of the economy and innovation becoming the source of value-added growth. The promise that Information and Communication Technology holds for education in such a context is undeniable. By developing open, virtual and distance learning options, it can decentralize educational administration. Information and Communication Technology has a potential to promote increased community involvement and can be used to teach about the technology itself, helping people acquire the skills and competencies needed for the future life.

The Information and Communication Technology provides students with the tools they need to discover and own knowledge. And give students the hooks and templates they need to fasten information to the long-term memory. The Internet, which is one of the forms of Information and Communication Technology, can act as a motivating tool for Young people who are very captivated with technology. Teachers and Educators must capitalize on this interest, excitement, and enthusiasm about the Internet for the purpose of enhancing learning. For already enthusiastic learners, the Internet allows you to provide them with additional learning activities not readily available in the classroom. The Internet promotes fast communication across geographical barriers as the students can join collaborative projects that involve students from different states, countries or continents. This is a unique learning experience very essential for each of the students, as the world is becoming one big community. The Internet facilitates cooperative learning, encourages dialogue, and creates a more engaging classroom. Apart from communication, research is one of the most essential activities required for the students of higher education will take many people to the Internet. There are many more resources on the Internet than the school or college library can provide. Teachers can encourage students to take advantage of this wealth of resources on the Internet for their research. If students are required to publish their work on the Internet, they have to develop hypertext skills. These skills help students gain experience in non-

sequential writings. Moreover, and since the Internet is open to all with access, students publishing their work on the Internet are forced to be mindful of their language and to write to non-expert audience.

The use of the Internet for education is also having so many problems. Therefore, one should expect the problems to be encountered in using the Internet in teaching to be evolving as well. Apart from Web sites that claim to help students write term papers, there are numerous cases of students down loading information from the Net and turning them in for grades. The teachers can minimize this problem by requiring students to cite research sources. Criminals, marketers, and other persons can easily get information from students when they are online which could post danger to students' lives or may even lead to litigation against the school. By creating awareness among the students about the dangers of giving information to the unauthorized people online, these problems can be solved. The parents and teachers need to supervise students' online activities so that they can control the unethical behavior of the students. In countries like India, most of public schools and colleges with a high minority enrollment had a lower rate of Internet access than private schools and colleges with a low minority enrollment. Therefore, the benefits of Information and Communication Technology can not be reached equally to all. The same was true of instructional rooms in those schools. In addition, students from low-income families may not have computers at home or may have computers at home with no access to the Internet. Consequently, students in low-income communities may be disadvantaged. Hence, teachers should give Internet assignments that students can easily complete while in school or college. If necessary, schools or colleges may need to keep computer laboratories open for longer and/or odd hours. The use of computers at public libraries should also be encouraged. It takes a lot of preparation time to the teachers to effectively use the Net for education. In addition to designing Internet based lesson plans, teachers may have to surf the Internet to download lesson plans and adapt them to support the curriculum objectives or visit sites to select those appropriate for classes. Teachers have no choice but prepare himself to improve the his teaching efficiency by using proper subject methodology in order to help the students so that every student become responsible user of the Internet and can learn effectively and efficiently.

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## II. CONCLUSION

Teaching is transmission of some facts and figures, some values and attitudes to a group of students or clients. Teaching using the Internet brings to bear a new set of administrative demands on the teacher and the school administration. These include development and implementation of acceptable use policy, training, developing new evaluation criteria as needed, and addressing parents' concerns. Moreover, Technology should only be in the background and it can never dominate the teacher and his teaching skills. In the foreground should be innovating teaching and learning strategies. The way it is used to supports a particular approach to teaching and learning is important. In numerous ways, the approach it supports is more important than the technology. Technology cannot be inserted into education in the abstract and it should be part and parcel of methodology of specific subject. Which means different subject will have different methodologies through its content will be delivered. Therefore, Information and Communication Technology should help the teacher and students in understanding the curriculum of the subject. Using computer technology just for displaying the content does not serve the purpose as most

of the teachers doing now. But, arranging a computer and internet facility in every class room, besides being extremely costly, may not necessarily be the best policy for a developing country. For a developing country like India we will have to think of combining new and old technologies in imaginative ways to deliver educational content. Synergic combination of the modern and traditional technology is required for achieving the set target of Indian education. Therefore, appropriate usage of Information and Communication Technology can only make the teachers and students in fulfilling their goals and can produce skilled intellectuals to the India which make the India to be proud in the world.

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